

**Appln No. 10/591,516**  
**Amdt date April 18, 2012**  
**Reply to Office action of January 25, 2012**

**REMARKS/ARGUMENTS**

Applicant has amended claims 2 and 4 to recite a narrowed group of coupling agents disclosed in the specification at paragraphs 0014 and 0015. Applicant has also amended claims 1-4 to correct the spelling of phenol. Lastly, Applicant has amended the specification to correct an inadvertent typographical error. The amendments are fully supported by the originally filed specification and claims, and no new matter has been added.

In the January 25, 2012 Final rejection, the Examiner rejected claims 1-4 under 35 the ground of nonstatutory obviousness-type double patenting over claims 1-8 of Asai et al. (U.S. 6,716,907) (Asai I) in view of Togashi et al. (U.S. 5,064,881) and Amagai et al. (U.S. 2003/0130438). The Examiner also rejected claims 1-4 under 35 U.S.C. § 103(a) as obvious over Asai et al. (U.S. 2002/0123557) (Asai II) in view of Togashi and Amagai. Each of claims 1-4 recite, in part, 30 to 90 parts by weight of a natural silica powder *having an average particle size of 0.5 to 15  $\mu$ m*. In rejecting these claims, the Examiner admits that Asai I and Asai II do not explicitly teach the use of silica having a particle size of 0.5 to 15  $\mu$ m. The Examiner relies on Togashi and Amagai to remedy this deficiency. However, Asai I and II teach away from the claimed silica power particle size. That is, Asai I and Asai II state that silica powder having an average particle diameter of 20 to 150  $\mu$ m should be used. Asai I, col. 3, lines 4 and 5; Asai II, paragraph 0022. Asai I and Asai II further state that "[i]f the average particle diameter of the natural silica powder is smaller than 20  $\mu$ m, the contact surface area of the particles with the phenolic resin becomes small so that the particles are apt to drop out undesirably." Asai I, col. 3, lines 12-16; Asai II, paragraph 0022. According to the MPEP, it is "improper to combine references where the references teach away from their combination." MPEP § 2145 (D)(2) (citing *In re Grasselli*, 713 F.2d 731 (Fed. Cir. 1983)). As Asai I and Asai II teach away from using natural silica powder having an average particle diameter of less than 20  $\mu$ m, according to the MPEP, it would be improper to combine Asai I or Asai II with Togashi and/or Amagai to arrive at the claimed natural silica powder having an average particle size of 0.5 to 15  $\mu$ m. As Asai I and Asai II teach away from using the claimed natural silica powder having an average

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particle size of 0.5 to 15  $\mu\text{m}$ , independent claims 1-4 should be allowable over Asai I or Asai II and Togashi and Amagai.

Notwithstanding the fact that Asai I and Asai II teach away from the claimed invention, as stated in the October 25, 2011 Amendment, Togashi and Amagai are not analogous art. To be analogous prior art, the reference "must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992).

The Examiner appears to recognize that Togashi and Amagai are not in the field of Applicant's endeavor, as the Examiner's rebuttal appears to focus on the second prong of the analogous art test. The second prong of the analogous art test states that although not in Applicant's field of endeavor, cited references may nonetheless be analogous if they are reasonably pertinent to the particular problem with which the *inventor* was concerned. *In re Oetiker*, 977 F.2d 1443, 1446. However, in making this argument, the Examiner appears to suggest that Togashi and Amagai are pertinent to the problems addressed by Asai, and thus, are analogous art - this is not the test. The test is whether the cited references are reasonably pertinent to the particular problem with which the *inventor*, i.e., the inventor of the present application, was concerned. As stated in the October 25, 2011 Amendment, the problems addressed by Applicant included providing molded resin automobile components having "improved abrasion resistance" while reducing the "large load [that] is applied to production facilities such as molds and molding machines." Specification, paragraphs 0001-0003. Togashi and Amagai are not reasonably pertinent to these particular problems. That is, Togashi was concerned with reducing the shrinkage of epoxy resin molding, and obtaining good flowability, thereby providing a resin with good moldability, reduced flaws, and reduced surface roughness. Togashi, col. 1, lines 9-14; col. 4, lines 32-50; and col. 7, lines 54-60. Amagai, on the other hand, was concerned with providing a resin for use in coating, bonding, and molding electronics, thus requiring various properties such as a low dielectric constant and a low dielectric loss tangent. Amagai, paragraphs 0001, 0010, 0011. The problems addressed by Togashi and Amagai are problems related to electronics goods. Providing a molded resin product having, for

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example, low dielectric constant, was simply not a concern of the present inventors who were attempting to provide a molded resin component for automobiles that has improved abrasion resistance while reducing the large load to production facilities. As such, the problems of Togashi and Amagai, while generally related to the use of resins, are not related to the particular problem of improving resistance to dust abrasion while reducing the load applied to production facilities.

The Examiner appears to suggest that because Asai I and Asai II "direct[] the reader to silica appropriate for a phenol resin molding," it would have been obvious to look to Togashi because Togashi discloses the use of silica in a phenol resin. Office action, page 8. Similarly, the Examiner appears to suggest that because Asai I, Asai II, and Togashi disclose the use of silica in a phenol resin, it would have been obvious to look to Amagai because Amagai discloses the use of silica in a phenol resin. Office action, pages 8 and 9. In other words, the Examiner appears to equate a rationale for combining references in an obviousness rejection with the analogous art test. However, explaining the similarity of components or providing a rationale to combine references is not the proper test for determining whether a reference is analogous art. The proper analysis is to determine whether Togashi and Amagai are reasonably pertinent to the particular problems with which the present inventors were concerned. As stated above, the particular problems with which the inventors were concerned included providing molded resin automobile components having "improved abrasion resistance" while reducing the "large load [that] is applied to production facilities such as molds and molding machines." Specification, paragraphs 0001-0003. The problems addressed by Togashi include providing "an epoxy resin composition which has a very small molding shrinkage and an excellent precision moldability and can be valuably used as a sealing material for a semiconductor." Togashi, col. 1, lines 10-15. Amagai, on the other hand, was concerned with providing a resin for use in coating, bonding, and molding electronics, thus requiring various properties such as a low dielectric constant and a low dielectric loss tangent. Amagai, paragraphs 0001, 0010, 0011. Shrinkage, moldability, low dielectric constant, and low dielectric loss tangent were not concerns of the present application. As such, the problems addressed by Togashi and Amagai were not

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reasonably pertinent to the particular problems with which the present inventors were concerned. Accordingly, independent claims 1-4 are further patentably distinguishable over Asai I or Asai II and Togashi and Amagai.

While Applicant submits that independent claims 1-4 are allowable over Asai I, Asai II, Togashi, and Amagai, for at least the reasons stated above, in an effort to expedite allowance of claims 2 and 4, Applicant has amended these claims to recite that the coupling agent of the coupling agent treatment is selected from the group consisting of vinyltrichlorosilane, vinyltriethoxysilane, vinyltrimethoxysilane,  $\gamma$ -methacryloxypropyltrimethoxysilane,  $\beta$ (3,4-epoxycyclohexyl)ethyltrimethoxysilane,  $\gamma$ -glycidoxypropylmethyldiethoxysilane, N- $\beta$ (aminoethyl) $\gamma$ -aminopropyltrimethoxysilane, N- $\beta$ (aminoethyl) $\gamma$ -aminopropylmethyldimethoxysilane,  $\gamma$ -mercaptopropyltrimethoxysilane,  $\gamma$ -chloropropyltrimethoxysilane, isopropyltriisostearoyl titanate, tetraoctylbis(ditridecylphosphite)titanate, tetra(2,2-diallyloxymethyl-1-butyl)bis(ditridecyl)phosphate titanate, isopropyltri(N-aminoethyl-aminoethyl) titanate, bis(dioctyl pyrophosphate)oxyacetate titanate, isopropyltrioctanoyl titanate, isopropyltris(dioctylpyrophosphate)titanate, isopropylmethacrylisostearoyl titanate, isopropyltridodecylbenzenesulfonyl titanate, isopropylisostearoyldiacryl titanate, tetraisopropylbis(dioctylphosphite)titanate, isopropyltricumylphenyl titanate, and combinations thereof. Support for the amendment is found at least at paragraphs 0014 and 0015 of the present Application. None of the cited references teach or suggest the coupling agents of amended claims 2 and 4. Accordingly, claims 2 and 4 are further patentably distinguishable from Asai I, Asai II, Togashi, and Amagai.

Claims 1-4 now remain in this application. In light of the above amendments and remarks, Applicant submits that all of pending claims 1-4 are in condition for allowance. Applicant therefore respectfully requests a timely indication of allowance. However, if there are

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any remaining issues that can be addressed by telephone, Applicant invites the examiner to contact Applicant's counsel at the number indicated below.

Respectfully submitted,  
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